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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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12/12/2003

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EXAMINER

CANTELMO, GREGG

ART UNIT

PAPER NUMBER

1745

DATE MAILED: 12/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

08/827,985

Applicant(s)

ROOM ET AL.

Examiner

Gregg Cantelmo

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Amendment

1. In response to the amendment received October 20, 2003:
 - a. Claims 1-7 have been cancelled. Claims 8-18 are pending;
 - b. The specification objection has been withdrawn in light of the amendment;
 - c. The prior art rejections of record stand.

Information Disclosure Statement

2. The information disclosure statements filed June 15, 2003 has been placed in the application file and the information referred to therein has been considered as to the merits. The information submitted with a statement under 37 CFR 1.97(e) can be used in a new ground of rejection and the next Office action can be made final, if the new ground of rejection was necessitated by amendment of the application by applicant. Where the information is submitted during this period with a fee as set forth in 37 CFR 1.17(p), the examiner may use the information submitted, and make the next Office action final whether or not the claims have been amended, provided that no other new ground of rejection which was not necessitated by amendment to the claims is introduced by the examiner. See MPEP § 706.07(a) and MPEP § 609 paragraph (B)(2).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 8-18 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication No. 2002/0081491 (Gross).

Gross discloses a lithium ion battery comprised of: a plurality of generally planar cell sections each cell section having at least one flat metallic current collector tab (22 and 26) extending therefrom, said cell sections being stacked one on another to form a cell body having a planar upper surface and a planar lower surface; a plurality of said current collector tabs being aligned in spaced apart relationship between said upper planar surface and said lower planar surface and extending from one side of the cell body, each of said tabs having respective free ends 28 and 30 and respective intermediate portions 22 and 26, the free ends 28 are connected to each other and the free ends 30 are connected to each other but the intermediate portions 22 and 26 of the tabs are unattached to each other when said tabs are stacked together at a location offset from the cell body, such that the tabs are folded into a generally U-shaped configuration with said unattached intermediate portions forming a smooth layered

generally U shaped structure with said tab ends disposed adjacent said one side of the cell body (Figs 6-8 as applied to claim 8).

Leads 32 and 34 are attached to the respective tab ends 28 and 30 (Figs. 6 and 7 as applied to claim 9).

The leads 32 and 34 are thin metal strips welded to the tab weldment (Figs. 6 and 7 and paragraph [0020] as applied to claim 10).

A portion of the metallic strips 32 and 34 are disposed between the tab weldments on respective ends 28 and 30 and an end of the cell (Figs. 6 and 7 and applied to claim 11).

A portion of the metallic strips 32 and 34 are bent around and thus are wrapped around the tab weldment (Figs. 6 and 7 as applied to claim 12).

The collector tabs are comprised of metallic mesh and the lead strips are of a solid metal having a width approximately equal to the width of the tabs (Fig. 8 and paragraph [0020] as applied to claim 13).

Gross discloses a lithium ion battery comprised of: a plurality of generally planar cell sections, each cell section having at least one flat metallic current collector tab extending therefrom, said cell sections being stacked one on another to form a cell body, a plurality of said cathode current collector tabs 26 being aligned and extending from one side of the cell body, each of the current collector tabs 26 having an intermediate end 26 and a free end 30 (Fig. 7) a plurality of said anode current collector tabs 22 being aligned and extending from one side of the cell body, each of the current collector tabs 22 having an intermediate end 22 and a free end 28 (Fig. 6), a cathode

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tab weldment (interface between cathode tab ends 30 and leads 34) joining the free ends 30 of the cathode current collector tabs 26 but leaving the intermediate ends 26 of the current collector tabs unattached to each other (Fig. 7), said cathode current collector tabs 26 are welded together at a location offset from the cell body, such that the cathode current collector tabs are folded into a generally U-shaped configuration with said unattached intermediate portions forming a smooth layered generally U shaped structure with said cathode tab ends disposed adjacent said one side of the cell body, an anode tab weldment (interface between anode tab ends 28 and leads 34) joining the free ends 28 of the anode current collector tabs 22 but leaving the intermediate ends 22 of the current collector tabs unattached to each other (Fig. 6), said anode current collector tabs 22 are welded together at a location offset from the cell body, such that the anode current collector tabs are folded into a generally U-shaped configuration with said unattached intermediate portions forming a smooth layered generally U-shaped structure with said anode tab ends disposed adjacent said one side of the cell body (Fig. 6 as applied to claim 14).

A strip of metal 34 is attached to the cathode tab weldment to form a cathode battery lead (Fig. 7 and paragraph [0020] as applied to claim 15).

A strip of metal 32 is attached to the anode tab weldment to form a anode battery lead (Fig. 6 and paragraph [0020] as applied to claim 16).

The cathode current collectors tabs and anode current collector tabs are formed of a metal mesh selected from the group consisting of copper and aluminum and the

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metal strips are selected from the group consisting of copper, aluminum and nickel (paragraph [0020] as applied to claim 17).

A portion of the metallic strips 32 and 34 are disposed between the tab weldments on respective ends 28 and 30 and an end of the cell (Figs. 6 and 7 and applied to claim 18).

Response to Arguments

5. Applicant's arguments filed October 20, 2003 have been fully considered but they are not persuasive.

Applicant argues that none of the prior art of record teaches, suggests or renders obvious the tab weldment assembly as set forth in the claims. Specifically that none of the prior art of record teaches, suggests or renders obvious joining the tabs together at a location offset from the cell body and then folding the tabs into a U-shaped configuration about an axis within the surface of the cell body.

The examiner respectfully disagrees.

First, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that the tabs are folded into a U-shape) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The claim recites that the tabs are folded into a "generally U-shaped configuration". The term generally is not limiting to an exact U-

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shape configuration and is held to include other shapes which are similar to a U-shape and thus of a general U-shape configuration.

Secondly, with respect to the prior art of Gross, Gross teaches in Figs. 6 and 7 of the tabs connected and welded into a bent configuration, such a shape being interpreted to be generally U-shaped. Fig. 8 shows the terminal members 32 as the only component extending from the cell casing. Thus the bent configuration of the leads 28 onto the terminal 32 is bent about an axis which is within the cell casing.

Lastly, while Applicant has asserted that the prior art does not teach the configuration of the weldment assembly as discussed above, Applicant presents no clear reasoning or evidence to support their position with respect to the particulars of the prior art teachings of Gross. Applicant's interpretation of the prior art of Gross in relation to the instant claims is not clear apart from the fact that Applicant opines that the teachings of Gross do not teach, suggest or render obvious the claimed invention.

Therefore contrary to Applicant's position, it is held that the prior art of record in fact teaches of the claimed invention.

Applicant further argues that none of the prior art of record suggests or shows minimizes stress in the current collector tab by joining the tabs together as described in the claims.

First, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the claimed tab weldment assembly minimizes stresses in the current collector tabs) are not recited in the rejected claim(s). Although the claims are interpreted in light

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of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The claim recites that the tabs are folded into a "generally U-shaped configuration". The term generally is not limiting to an exact U-shape configuration and is held to include other shapes which are similar to a U-shape and thus of a general U-shape configuration.

Applicant is further advised that since Gross has the same structure as the claimed invention, there would be valid evidence to conclude that the structure of Gross would inherently provide the same stress reduction, absent clear evidence to the contrary.

While intended use recitations and other types of functional language cannot be entirely disregarded. However, in apparatus, article, and composition claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); *In re Otto*, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963).

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). See also MPEP § 2114.

The manner of operating the device does not differentiate an apparatus claim from the prior art. A claim containing a "recitation with respect to the manner in which a

claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

Claim Rejections - 35 USC § 102

6. Claims 8, 9 and 14 are rejected under 35 U.S.C. 102(a) as being anticipated by JP 2000-311665-A (JP '665).

JP '665 discloses a lithium ion battery comprised of: a plurality of generally planar cell sections (Fig. 4), each cell section having at least one flat metallic current collector tab (5a, and 5b) extending therefrom, said cell sections being stacked one on another to form a cell body having a planar upper surface and a planar lower surface; a plurality of said current collector tabs 5a and 5b being aligned in spaced apart relationship between said upper planar surface and said lower planar surface (Figs. 2-4) and extending from one side of the cell body, each of said tabs having a free end and an intermediate portion, the free ends of the tabs are connected but the intermediate portions of the tabs are unattached to each other when said tabs are stacked together at a location offset from the cell body (Fig. 10), such that the tabs are folded into a generally U-shaped configuration with said unattached intermediate portions forming a smooth layered generally U shaped structure with said tab ends disposed adjacent said one side of the cell body (Fig. 5b as applied to claim 8).'

Leads 11 are attached to the tab ends (Figs. 5b and 10 as applied to claim 9).

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JP '665 discloses a lithium ion battery comprised of: a plurality of generally planar cell sections (Fig. 4), each cell section having at least one flat metallic current collector tab (5a, and 5b) extending therefrom, said cell sections being stacked one on another to form a cell body, a plurality of said cathode current collector tabs 5a being aligned and extending from one side of the cell body, each of the current collector tabs 5a having an intermediate end and a free end (Figs. 2-4) a plurality of said anode current collector tabs 5b being aligned and extending from one side of the cell body, a cathode tab weldment (interface between tab ends 5a and leads 11) joining the free ends of the cathode current collector tabs but leaving the intermediate ends of the current collector tabs unattached to each other (Fig. 10), said cathode current collector tabs are welded together at a location offset from the cell body, such that the cathode current collector tabs are folded into a generally U-shaped configuration (Fig. 5b) with said unattached intermediate portions forming a smooth layered generally U shaped structure with said cathode tab ends disposed adjacent said one side of the cell body, an anode tab weldment (interface between anode tab ends and leads 11) joining the free ends of the anode current collector tabs 5b but leaving the intermediate ends of the current collector tabs unattached to each other (Fig. 10), said anode current collector tabs 5b are welded together at a location offset from the cell body, such that the anode current collector tabs are folded into a generally U-shaped configuration with said unattached intermediate portions forming a smooth layered generally U shaped structure with said anode tab ends disposed adjacent said one side of the cell body (Fig. 5B as applied to claim 14).

Response to Arguments

7. Applicant's arguments filed October 20, 2003 have been fully considered but they are not persuasive.

Applicant argues that none of the prior art of record teaches, suggests or renders obvious the tab weldment assembly as set forth in the claims. Specifically that none of the prior art of record teaches, suggests or renders obvious joining the tabs together at a location offset from the cell body and then folding the tabs into a U-shaped configuration about an axis within the surface of the cell body.

The examiner respectfully disagrees.

First, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that the tabs are folded into a U-shape) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The claim recites that the tabs are folded into a "generally U-shaped configuration". The term generally is not limiting to an exact U-shape configuration and is held to include other shapes which are similar to a U-shape and thus of a general U-shape configuration.

Secondly, with respect to the prior art of JP '665, JP '665 teaches in Fig. 5B of the tabs connected and welded into a U-shaped bent configuration. Fig. 5B additionally

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shows the bent configuration of the leads are bent about an axis which is within the cell casing.

Lastly, while Applicant has asserted that the prior art does not teach the configuration of the weldment assembly as discussed above, Applicant presents no clear reasoning or evidence to support their position with respect to the particulars of the prior art teachings of JP '665. Applicant's interpretation of the prior art of JP '665 in relation to the instant claims is not clear apart from the fact that Applicant opines that the teachings of JP '665 do not teach, suggest or render obvious the claimed invention.

Therefore contrary to Applicant's position, it is held that the prior art of record in fact teaches of the claimed invention.

Applicant further argues that none of the prior art of record suggests or shows minimizes stress in the current collector tab by joining the tabs together as described in the claims.

First, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the claimed tab weldment assembly minimizes stresses in the current collector tabs) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The claim recites that the tabs are folded into a "generally U-shaped configuration". The term generally is not limiting to an exact U-shape configuration and is held to include other shapes which are similar to a U-shape and thus of a general U-shape configuration.

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Applicant is further advised that since JP '665 has the same structure as the claimed invention, there would be valid evidence to conclude that the structure of JP '665 would inherently provide the same stress reduction, absent clear evidence to the contrary.

While intended use recitations and other types of functional language cannot be entirely disregarded. However, in apparatus, article, and composition claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); In re Otto, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963).

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). See also MPEP § 2114.

The manner of operating the device does not differentiate an apparatus claim from the prior art. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

Claim Rejections - 35 USC § 102

8. Claims 8, 9 and 14 are rejected under 35 U.S.C. 102(a) as being anticipated by EP 1045466 A1 (EP '466).

EP '466 discloses a lithium ion battery comprised of: a plurality of generally planar cell sections (Fig. 2), each cell section having at least one flat metallic current collector tab (101a and 102a) extending therefrom, said cell sections being stacked one on another to form a cell body having a planar upper surface and a planar lower surface; a plurality of said current collector tabs 101a and 102a being aligned in spaced apart relationship between said upper planar surface and said lower planar surface (Fig. 2) and extending from one side of the cell body, each of said tabs having a free end and an intermediate portion, the free ends of the tabs are connected but the intermediate portions of the tabs are unattached to each other when said tabs are stacked together at a location offset from the cell body (Fig. 2), such that the tabs are folded into a generally U-shaped configuration with said unattached intermediate portions forming a smooth layered generally U shaped structure with said tab ends disposed adjacent said one side of the cell body (Fig. 2 as applied to claim 8).

Leads 101 and 102 are attached to the tab ends 101a and 102a (Fig. 2 as applied to claim 9).

EP '466 discloses a lithium ion battery comprised of: a plurality of generally planar cell sections (Fig. 2), each cell section having at least one flat metallic current collector tab (101a and 102a) extending therefrom, said cell sections being stacked one on another to form a cell body, a plurality of said cathode current collector tabs 102a

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being aligned and extending from one side of the cell body, each of the current collector tabs 102a having an intermediate end and a free end (Figs. 2-4) a plurality of said anode current collector tabs 101a being aligned and extending from one side of the cell body, a cathode tab weldment (interface between cathode tab ends and lead) joining the free ends of the cathode current collector tabs but leaving the intermediate ends of the current collector tabs unattached to each other (Figs. 1 and 2), said cathode current collector tabs are welded together at a location offset from the cell body, such that the cathode current collector tabs are folded into a generally U-shaped configuration with said unattached intermediate portions forming a smooth layered generally U shaped structure with said cathode tab ends disposed adjacent said one side of the cell body, an anode tab weldment (interface between anode tab ends and leads) joining the free ends of the anode current collector tabs but leaving the intermediate ends of the current collector tabs unattached to each other (Figs. 1 and 2), said anode current collector tabs are welded together at a location offset from the cell body, such that the anode current collector tabs are folded into a generally U-shaped configuration with said unattached intermediate portions forming a smooth layered generally U shaped structure with said anode tab ends disposed adjacent said one side of the cell body (Figs. 1 and 2 and paragraphs [0004]-[0005] and [0017]-[0019] as applied to claim 14)

Response to Arguments

9. Applicant's arguments filed October 20, 2003 have been fully considered but they are not persuasive.

Applicant argues that none of the prior art of record teaches, suggests or renders obvious the tab weldment assembly as set forth in the claims. Specifically that none of the prior art of record teaches, suggests or renders obvious joining the tabs together at a location offset from the cell body and then folding the tabs into a U-shaped configuration about an axis within the surface of the cell body.

The examiner respectfully disagrees.

First, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., that the tabs are folded into a U-shape) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The claim recites that the tabs are folded into a "generally U-shaped configuration". The term generally is not limiting to an exact U-shape configuration and is held to include other shapes which are similar to a U-shape and thus of a general U-shape configuration.

Secondly, with respect to the prior art of EP '466, EP '466 teaches in Fig. 2 of the tabs connected and welded into a generally U-shaped bent configuration. Fig. 2 additionally shows the bent configuration of the leads are bent about an axis which is within the cell casing.

Lastly, while Applicant has asserted that the prior art does not teach the configuration of the weldment assembly as discussed above, Applicant presents no clear reasoning or evidence to support their position with respect to the particulars of

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the prior art teachings of EP '466. Applicant's interpretation of the prior art of EP '466 in relation to the instant claims is not clear apart from the fact that Applicant opines that the teachings of EP '466 do not teach, suggest or render obvious the claimed invention.

Therefore contrary to Applicant's position, it is held that the prior art of record in fact teaches of the claimed invention.

Applicant further argues that none of the prior art of record suggests or shows minimizes stress in the current collector tab by joining the tabs together as described in the claims.

First, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the claimed tab weldment assembly minimizes stresses in the current collector tabs) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The claim recites that the tabs are folded into a "generally U-shaped configuration". The term generally is not limiting to an exact U-shape configuration and is held to include other shapes which are similar to a U-shape and thus of a general U-shape configuration.

Applicant is further advised that since EP '466 has the same structure as the claimed invention, there would be valid evidence to conclude that the structure of EP '466 would inherently provide the same stress reduction, absent clear evidence to the contrary.

While intended use recitations and other types of functional language cannot be entirely disregarded. However, in apparatus, article, and composition claims, intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. In re Casey, 370 F.2d 576, 152 USPQ 235 (CCPA 1967); In re Otto, 312 F.2d 937, 938, 136 USPQ 458, 459 (CCPA 1963).

Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959). See also MPEP § 2114.

The manner of operating the device does not differentiate an apparatus claim from the prior art. A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 10 are 15-17 and are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '665 in view of either the admitted prior art relied upon in the instant application.

The teachings of claims 8-9 and 14, with respect to JP '665, have been discussed above and are incorporated herein.

The differences between instant claims 9-11 and 15-16 and JP '665 are that JP '665 does not appear to teach of the leads 11 comprising a strip of metal (claims 10, 15 and 16) or of the tabs formed of a metal mesh selected from the group consisting of copper, aluminum and nickel and the metal strips are from the group consisting of copper, aluminum and nickel (claim 17),

With respect to the leads comprising a strip of metal (claims 10, 15 and 16):

The background art of the instant application teaches that it is known in the art to use metal strips as the lead materials (page 1, paragraph [0004]).

The skilled artisan would have recognized the motivation for using a metal material such as copper or aluminum to provides a lead having superior electrical conductivity.

With the current collectors being a metallic material such as aluminum or copper (paragraph [0010]) one of ordinary skill in the art would have found it desirable to employ the same metal material to be the leads because it would have provided the

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same degree of electrical conductivity from the cell to an external source which the cell is used in.

The motivation for using leads comprising a strip of metal is that it provides a high electrical conductive path from the cell .

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of JP '665 by using a metal material as the lead since it would have provided a lead having superior electrical conductivity. The selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945) See also *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960). MPEP § 2144.07.

With respect to claim 17:

The background art of the instant application teaches that it is known in the art to use metal screens or meshes of copper and aluminum for electrode current collectors. Furthermore the lead material is typically a flat metallic strip formed of copper, nickel or aluminum (page 1, paragraph [0004]).

The skilled artisan would have recognized the motivation for using a metal material such as copper or aluminum as the material for the current collectors and leads since these materials are known in the art as having superior electrical conductivity. With the current collectors being a metallic material such as aluminum or copper (paragraph [0010]) one of ordinary skill in the art would have found it desirable to

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employ the same metal material to be the leads because it would have provided the same degree of electrical conductivity from the cell to an external source which the cell is used in.

The motivation for using metal materials such as aluminum, copper and nickel for the tabs and leads is that it provides a high electrical conductive path from the cell .

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of JP '665 by using metal materials such as aluminum, copper and nickel for the tabs and leads since it would have provided an high electrical conductive path from the electrodes through the leads. The selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945) See also *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960). MPEP § 2144.07.

12. Claims 11-13 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP '665 in view of the admitted prior art relied upon in the instant application as applied to claims 10 and 15-17 above, and further in view of JP 2000-215877-A (JP '877).

With respect to claims 11 and 12:

The differences not yet discussed are of a portion of the metallic strip being disposed between the tab weldment and one side of the cell body (claim 11) or of metallic strip wrapped around the tab weldment (claim 12).

JP '665 discloses that folding the tabs and leads in a U-shape as shown in Fig. 5b provides an electrochemical cell configuration having large electric capacitance per volume by reducing the binding space of the tab (abstract).

Fig. 3 of JP '877 show a tab/lead weldment wherein the leads are wrapped around the tabs of the electrodes.

The motivation for configuring the metallic strip wrapped around the tab weldment is that it prevents disconnecting of the lead terminals (abstract). Securing the leads in the manner taught by JP '877 to the tab configuration of JP '665 would have resulted in a configuration wherein the leads would be wrapped on the side of the tab facing the cell and thus between a side of the cell and the tab (as applied to claims 11 and 12).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of JP '665 by wrapping the leads around the bent tabs of JP '665 as taught by JP '877 since it would have prevented disconnecting of the leads from the tabs.

With respect to claim 13:

JP '665 shows the leads having a width approximately equal to the width of the tabs (Fig. 10)

The difference not yet discussed is of the collector tabs comprised of metallic mesh and the lead being a solid metal (claim 13).

The background art of the instant application teaches that it is known in the art to use metal screens or meshes of copper and aluminum for electrode current collectors. Furthermore the lead material is typically a flat metallic strip formed of copper, nickel or aluminum (page 1, paragraph [0004]).

The skilled artisan would have recognized the motivation for using a metal material such as copper or aluminum as the material for the current collectors and leads since these materials are known in the art as having superior electrical conductivity. With the current collectors being a metallic material such as aluminum or copper (paragraph [0010]) one of ordinary skill in the art would have found it desirable to employ the same metal material to be the leads because it would have provided the same degree of electrical conductivity from the cell to an external source which the cell is used in.

The motivation for using metal materials such as aluminum, copper and nickel for the tabs and leads is that it provides a high electrical conductive path from the cell .

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of JP '665 by using metal materials such as aluminum, copper and nickel for the tabs and leads since it would have provided an high electrical conductive path from the electrodes through the leads. The selection of a known material based on its suitability for its intended use supported a prima facie obviousness determination in *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945) See also *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960). MPEP § 2144.07.

With respect to claim 18:

The difference not yet discussed is of the metal strips wrapped on respective tabs wherein a portion of each respective metal strip is disposed between respective tabs and one side of the cell (claim 18).

JP '665 discloses that folding the tabs and leads in a U-shape as shown in Fig. 5b provides an electrochemical cell configuration having large electric capacitance per volume by reducing the binding space of the tab (abstract).

Fig. 3 of JP '877 show a tab/lead weldment wherein the leads are wrapped around the tabs of the electrodes.

The motivation for configuring the metallic strip wrapped around the tab weldment is that it prevents disconnecting of the lead terminals (abstract). Securing the leads in the manner taught by JP '877 to the tab configuration of JP '665 would have resulted in a configuration wherein the leads would be wrapped on the side of the tab facing the cell and thus between a side of the cell and the tab (as applied to claims 11 and 12).

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of JP '665 by wrapping the leads around the bent tabs of JP '665 as taught by JP '877 since it would have prevented disconnecting of the leads from the tabs. The resultant combined teachings would have resulted in a configuration wherein the leads would be wrapped on the side of the tab facing the cell and thus between a side of the cell and the tab.

Response to Arguments

13. Applicant does not appear to make any further arguments to the particular 103 rejections above apart from those arguments drawn to the anticipatory 102 rejection of JP '655, the arguments above incorporated herein.

Since the prior art of JP '655 is held to still teach the claimed invention, and since Applicant does not provide further arguments to the particulars of the 103 rejections above, the 103 rejections of record stand.

Conclusion

14. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is (703) 305-

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0635. The examiner can normally be reached on Monday through Thursday from 8:00 a.m. to 5:30 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan, can be reached on (703) 308-2383. Note that these telephone numbers will change around January 1, 2004. At such time the examiners new telephone number will be (571) 272-1283 and the examiner's supervisor's number will be (571) 272-1292. FAX communications should be sent to FAX number: (703) 872-9306. FAXES received after 4 p.m. will not be processed until the following business day. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Gregg Cantelmo
Patent Examiner
Art Unit 1745

gc



December 9, 2003